

ABSTRACT

DYNAMIC GAIN AND CHANNEL EQUALIZERS

A beam refraction apparatus includes an input fiber carrying an input beam. A wavelength dispersive element is coupled to the input fiber. The wavelength dispersive element spreads the input beam in at least one dimension as a function of wavelength and generates a dispersed beam. A controllable grating reflects the dispersed beam to the wavelength dispersive element and generates a recombined beam. The controllable grating provides a controllable reflectivity as a function of wavelength. An output fiber receives the recombined beam. A collimating optical member is coupled to the input and output fibers. The collimating optical member passes the input beam and the recombined beams in parallel and opposite directions.